p 30.

Ob the remote Causes of Disease
insensible qualities
from &c in the Air — cont.

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or exposed them when formed, to be carried off by fresh Air, and in the latter case to the disposition of those men to crowd together in the hold of the Ships in order to protect themselves from the cold and damp Air. Even the military hospitals in hot Climates are seldom visited with fevers from human miasmata. Dr Hunter informs us that during two years in which he had the charge of a military hospital in Jamaica he did not see a single case of it.

3 Human miasmata adhere to Cloathing of all kinds, more especially to linen & woolen whether Apparel or Curtains for days, weeks and even months, during which time they

V These facts are of great application ~~to~~ in the practice of physic.

retain their Activity so as to be able to ~~propagate~~ ~~themselves by producing contagion~~ produce fever. I once knew a stocking that had been worn by a man in a fever from human miasmata, convey that disease to one of his fellow servants who tied it round his neck several days after it had been thrown aside, and I have heard of a convict in Stafford County Maryland, who came to that state when a British province in a Ship infected with that fever, who nearly distroyed a whole family by ~~wearing a~~ taking a coat or Waiscoat out of his Chest, and wearing it about the house three months after his Arrival & connection with the family. But this is not all, these miasmata adhere to wood, and perhaps to brick and Stone walls. There was an

an instance of a Worden hospital at the yellow Springs in this state which retained the seeds of this fever for five months so as to infect a number of soldiers who were sent to it during the revolutionary war. Dr Willan mentions an instance in which the miasmata were retained in an active state for several years in some houses in Woodsclose Clerkenwell in the City of London. Similar facts are related by Dr Clark. We are prepared by them to believe the accounts that are given in the Old testament of the Leprosy of the Jews, the infection of which adhered with so much tenacity to the walls of this houses as to make it necessary to destroy them in order to destroy the infection. It is unarishable the contagion of the fever from human miasmata does not adhere to white washed walls, nor to w

It was communicated in this way Mr Fuller tells us in his ecclesiastical history on the 23rd of June in the year 1557 in Oxford in great Britain. A certain Robt. Jenkins a popish bookseller was brought from jail in which he had been closely confined and publickly convicted of dispersing a seditious pamphlet. Of the persons who were present at his tryal 300 were infected by him and died, and 200 more were infected and died out of the Court house ~~by him~~ who ~~he~~ received the disease from those who were infected in it. Of these 500 there was not a single woman or child. Again Sir John Pring informs us

ground floor. The former has been proved by Mr Howard in his Account of Lazarettos, and the latter by Count Saxe in his Reveries upon the Art of War, and hence he always ~~he also~~ forbad the ground of his Military hospitals to be covered with Wood, or any other matter. Dr Filton followed his practice and Advice in the Construction of his hut=-hospitals near Monistown in the year 1780, and with singular Advantage to the Soldiers of the American Army.

4 Persons highly impregnated with retained & vitiated perspiration sometimes infect other people without being infected themselves. ~~It~~ that it was communicated by some Criminals brought from prison ~~in their Cloaths~~ to the old Bailey ~~to forty persons~~ on the 11th of May 1750 to four Judges, two or three Lawyers, one

analogous to these facts. There was a man some years ago in New Jersey who was incapable of being poisoned by the common poison Vine of our meadows, who never failed to infect his wife with it after handling, or being otherwise exposed to it.

5. Persons sometimes affect themselves ~~from their own confined~~ irritated perspiration. Solitary fevers are often induced in this way.

Sheriff, several Jurors and to as many others as made the whole number who died of it amount to forty persons. no one of the Criminals was even indisposed with it.

6 Idio. or human miasmata are much aided in their operation upon the ~~human~~ body by means of Cold. It was observed that those persons who sat near a Window and who were exposed to ~~in the way of~~ a Cool Current of Air at the Old Bailey in the Case just now mentioned, were the greatest Sufferers by the fever. Cold was often the exciting Cause of the fever generation in the American hospitals during the revolutionary War. This was most obvious when the soldiers were removed in Cold weather to prevent

their falling into the hands of the British Army. Three fourths of them ~~those who were there exposed~~ generally sickened soon afterwards with the hospital fever.

¶ ~~The~~ Feeble and debilitated persons are most subject to ~~the~~ fever from human miasmata. Convalescents from other diseases, and in ~~some~~ some instances from this fever, were most frequently affected by it in the military hospitals during the revolutionary war.

¶ It has been remarked that pregnant women, and persons who labour under painful abscesses frequently escape this fever even in the most exposed situations. The stimulus of distention in the ~~first instance~~ former case, & of pain in the latter, protect the System

from ~~infection~~ the Disease. After parturition, or the opening of ~~an~~ the Abscess, the same persons are often affected with this fever.

9 Dejection of mind from grief, and fear not only generates ~~this~~ the fever from human miasmata, but predis=
=poses to it from all its other causes.

10 I have hitherto spoken only of the mor=
=bid effects of the miasmata emitted from human bodies, but many animals under circumstances of confinement & bad diet, emit miasmata which produce disease. An instance of it is mentioned by Dr Fordyce as having occurred on board of a ship in which a number of sheep and hogs were sent from Great Britain in the year 1778 to New York in order

V 11. They are seldom communicated ~~no~~ further than ~~ten~~ feet from persons infected with the fever.

VI American Army: While the fever induced by them in the common Soldiers (previously worn down by fatigue, or bad provisions,) ~~they~~ required Bark & Wine to cure it, it could not be cured without one or two bleedings in the less ~~fatigued~~ debilitated and better fed Officers of the Army, ~~or~~ of the well fed Citizens that caught the disease by being exposed to it.

to supply the British garrison in that city with fresh ~~provisions~~ animal food.

Let us now attend to the manner in which these miasmata act upon the human body and the different forms of disease produced by them.

1 In the ~~Arterial~~ sanguiferous system they produce fever which is ~~usually~~ of a typhus and chronic nature, except in those few cases in which they attack persons of robust habits. ~~[Bloodletting is seldom required to cure it.]~~ In this way they acted in the ~~sea~~

2 They affect the nerves with stupor, the muscles with tremors, the head with pain, and the mind with a low degree of delirium.

3 They affect the alimentary canal with

Dysentery. This has often been observed in besieged towns, and crowded Ships.

5 They sometimes produce the Influenza. An account of this disease from idiomatic=matic on board the British Ship Bellerophon is mentioned in the 4th volume of Bellamys medical journal. A similar account of an Influenza or Catarrh ~~and~~ from the same cause on board the American Frigate Philadelphia is taken notice of by Dr Champney in his inaugural dissertation published in the year 1805. It preceded a Dysentery which prevailed on board that Ship.

6 These miasmata sometimes induce the Scurvy - proofs of which have been laid before the public by Dr Claiborne in

inaugural dissertation upon that disease published about the year 1799.

The fever and Dysentery which are derived from these exhalations ~~for~~ sometimes propagate themselves by Contagion. ~~The~~ Contagion is of two kinds - ~~from~~ a secreted matter such as takes place in the Small pox and measles - and an excreted matter which is formed by ~~parts~~ a new and vitiated organization of a portion of the Animal fluids. The fever and Dysentery from human miasmata are propagated only in the latter way. They never extend more than ten feet from the sick, - they never pervade the Atmosphere ~~so~~ as to produce an epidemic, ~~disease~~, and they ~~prevail~~ induce ~~the~~ disease only in Jails, hospitals, prisons Carriages - crowded Ships, and in the small and filthy huts of poor people. -

That there is nothing Specific in the matters which thus produce fever & Dysentery I infer from this not producing uniformly the same form of disease. Thus the excretions from a patient in fever induces a Dysentery in another person and vice versa. ~~In~~ ~~persons predisposed to~~ other diseases are excited by them when they act upon persons predisposed to those other diseases.

Thus have I pointed out all the bi=
=nus which appears to be the Offspring of Idiomasmatic exhalations, whether ~~from~~ derived from the living bodies of men or brutes. Dr Mitchell supposes them to be the same ~~as~~ as marsh or Miasmatic, and has given to both the Name of Lepton to which he

V 6. The functions of the brain, and nerves and sometimes of the muscles are much impaired.

describes qualities of an acid nature. I cannot assent to this opinion while I recollect the immense difference between the hospital fever (of which I saw several thousand instances in the military hospitals of the United States during the revolutionary war), and the yellow fever which has so often appeared in our city since the year 1793. The fever from Miasmata differs from the fever from Miasmata in the following particulars. 1 It prevails chiefly in and cool and cold weathers and is checked by warm weather. 2 It affects persons of debilitated habits chiefly and comes on gradually. 3 It is seldom attended with a discharge of bile or even with a sick stomach. 4 Its remissions are scarcely perceptible. 5 The pulse is seldom above a typhoid action and the heat moderate. 6 It

& the synonymes of Jail, hospital, camp & ship fever.

V functions of the Brain ~~&~~ nerves & muscles are much less impaired in it, than in an Idiomiasmatic fever. 7 It ~~is~~ generally terminates when it assumes the form of a Remittent in 3.5.7.9. or 11. Days. ~~But on these~~ Rarely it assumes a chronic form and continues 15-20 & 30 Days. 8 It is never contagious except when it assumes a chronic form. 9 It is destroyed by heavy rains high winds and frost. 10. It is known by the names of bilious fever yellow fever - Remitting & intermitting fever and continual fever.

usually continues 10 - 15 - and even 30 days. 8 It propagates itself from its excretions and particularly ~~from~~ by perspiration. 9 It is checked by warm weather. 10. It is known by the fever from having remissions appears under circumstances and with signs ~~but~~ the reverse of those which have been mentioned. 11 It prevails chiefly in the ~~the~~ Summer & Autumnal months, ~~but~~ in Climates uniformly warm at all seasons. 12 It attacks ~~indiscriminately~~ persons of robust habits chiefly & for the most part suddenly. 13 It is attended with ~~sickness~~ and vomiting ~~of~~ discharges of bile, or a total obstruction of the excretion of bile, and sometimes of its secretion. 14 It is attended with obvious intermissions or remissions. 15 The pulse is generally hyperthenic fortis or critis, or typhoid, and the heat of the skin ~~feeble~~ generally above its natural temperature. 16 The

While I thus maintain this remarkable difference between the fevers from Boing=
& Indio = miasmatic exhalations, I admit
that ~~[illegible]~~ the former sometimes act
~~also~~ upon the body while it is impreg=
=nated with the latter, and thus produce a
~~kind~~ fever with a yellow Skin and several
other bilious Symptoms. Dr Gronsoe in
his treatise upon the Diseases of the British
Army, and Lempriere in his Account of
the diseases of Jamaica describe this ~~an~~
~~[illegible]~~ mongrel form of ~~double~~ fever. Sailors
who arrive in the West Indies in ~~Ships~~ crowded
& sickly Ships ~~or often affected and~~ in apparent health, but where
bodies are impregnated with human
miasmata, are often affected with it.
This heterogeneous or mongrel fever is sometimes
propagated by the Contagion of excretion,

V I shall now add that reason and experience are equally competent to prevent all the diseases from human or idiomiasmatic exha=
=lations. The United States of America have furnished a striking proof that the universal preva=
=lence of — p 47.

and hence has arisen the error of the conta=
=giousness of the yellow fever in the West
Indies.

I said formerly that no Climate however
cold or hot is necessarily unhealthy when
the extremes of the weather are opposed by
suitable dresses, and other accommodations
which reason and experience have suggested
to obviate this painful and morbid effects
upon the body. I have said the same thing
of countries and places that are un=
=healthy from Noxious inosmatic
exhalations. Could the superstitious belief
in the exclusive origin of fevers from
those two sources in contagion,
be banished from
medicine, & universal cleanliness

~~And the United States have furnished a proof that the Universal parentage~~ =

be introduced into our cities, villages & country situations — houses & persons by means which are within our power, miasmatic fevers ~~from the two sources that have been mentioned~~, would soon be ~~ex~~ blotted out ~~eliminated~~ from the list of diseases. Holland once the hot bed of fevers from thino-miasmatic exhalations has been made healthy by the extraordinary changes of the inhabitants of that country, and fevers ~~from idiomiasmatic~~ exhalations have been nearly driven out only from the houses of the affluent, but from hospitals and jails in Great Britain by removing all their remote ~~& proximate~~ causes. ~~Happily~~, and the United States have ~~for~~ the universal prevalence

of ~~comfortable~~ ample accommodations
men for the poor, — ~~the~~ of Domestic Clean-
-liness, — of ~~a~~ a plentiful or competent
supply of wholsome Aliment, — of content-
-ment, & peace in the United States ~~have~~ are
the certain means of preventing
~~defended those~~ ~~fevers~~ the fevers which
originate in human emiasmata.

[May this happy state of our Country continue
till time shall be no more!] —

~~go to p. 109 of Ap 3 — on pathology.~~

We proceed to mention other sources of the
unhealthy qualities of the atmosphere from
the mixture of foreign matters with it. They are
III. ~~Air~~ the matter discharged from the lungs
in Respiration. This has been called Azote ~~or~~
Nitrogen, or asphlogisticated Air, by the Chemists. When confined,
or undiluted with common Air it produces

III The matter which produces the Influenza comes next under our notice. I know this disease is classed with such as are contagious, ~~diseases~~ by Dr Cullen and many other Physicians. But I believe its ~~to spread~~ remote cause to be seated in some irritating matter in the atmosphere, and that it spreads independently of any intercourse of the citizens with each other. My Reasons for this opinion are as follow. 1 The rapidity with which it spreads thro' different countries, and frequently thro' large sections of the Globe. Its rapid progress ~~tenches~~, tho' in a greater degree of the rapid manner in which bilious fevers & other Atmospherical diseases

spread through Villages, Cities and Countries. The small pox does not keep with a ~~fifth~~ 50th part of their celerity thro a Country.

2 I infer ~~it from~~ the Influenza not to spread by Contagion from its having never been traced to any one spot from which it could be said to originate. It often begins in two or three places at one & the same ~~time~~ time.

3 - I infer it from many Villages ~~&~~ & individuals being ~~affected~~ with the Disease who had had no intercourse in any way with affected persons. Even Sailors have been affected by it remote from the Shore at the ~~time~~ time it has prevailed ~~upon~~ Land. —

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To these facts, I know it is objected that it has often been traced to an individual coming into a family or town. Where this has been the case, it may have been occasioned by the breath of the affected persons exhaling the disease in persons impregnated with the matter of the Influenza & thus predisposed to it — or the matter discharged with the breath of the affected persons may have undergone such

a change from a diseased state of the lungs, or from the long duration of the Influenza ~~Disease~~, as to produce the same affection in one or more members of a family or neighbourhood. The glanders certainly spread by contagion among horses, but it is only when they travel, or are stabled together. They never spread in an imperceptable manner thro' a neighbourhood. A circumstance contributes to render this disease contagious in horses that does not take place in the human species & that is only thro' this mode in consequence of which more inflammation is carried, & a more acrid matter is secreted by the membrane of the nose. It is so acrid sometimes as to ~~corrode~~ affect even the bones of the nose, or 3ly the cheeks in which the disease has been supposed

they in the Influenza in men.

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to have spread from contagion may be from accidental coincidence such as often takes place in intermitting & bilious fevers & opthalmia. I shall hereafter mention instances of whole families being affected by palsy, epilepsy, and worm fore legs, and surely no one will say any of these diseases are propagated by contagion.

But another & a much stronger argument in favor of the Influenza spreading by contagion is, said the Rev^d Mr McAulay in his history of St Kilda, a small Island on the Western Coast of Scotland. He says that every time a stranger visits that Island a catarrh or Influenza affects all its inhabitants within three days afterwards.

~~This~~ This fact may be explained ~~from~~ by resorting to the one men-
-tioned by Dr Blane - viz: the production
of fever by the first intercourse of
Sailors in a Ship, ~~for~~ or by the accession
of new recruits to the Crew of a
Ship. It is true a fever is not excited
by the visit of the Strangers to the
Island of St Kilda, but a disease is
produced which sometimes precedes
fever, or is a substitute for it on
board of Ships. ~~This~~ The former occurred in the
the Philad^a Frigate, ~~[illegible]~~ & the
latter in the British Ships Bellero-
-phron formerly mentioned. Take
notice the disease indeed in ~~all~~ the
two Ships & ~~on~~ the Island of St Kilda
was limited in its extent. ~~[illegible]~~
It was not propagated by either of the
Ships to the posts or Quarts they

visited, & Mr McCaulay does not mention that the Catarrh when existed on the Island ever spread to adjacent islands, or to the Coast of Scotland. —

IV. We come now to say a few words upon those Matters ~~in the air which produce~~ which are ~~supposed to ori-~~ scented ~~-ginate~~ in the human body, and after mixing with the Air propa-gate themselves in it, and produce a similar disease in other bodies. They are called Specific Contagions. They were formerly said to be very numerous. They are now very much limited. The Small Pox, the Measles, the Chicken Pox and the Hooping Cough are the only diseases which can confidently be said to be propagated by a Specific

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contagion. Even these have lately
been supposed from some facts
brought to light by the researches
of Mr. Webster to originate in a
peculiar & morbid state of the At-
=mosphere. The Cynanche Malig-
=na, & Scarlatina are most probably
atmospherical diseases. When they
spread by contagion, which they
occasionally do, it is probably from
the highly diseased states of the
organs thro' which the breath
passes in Respiration. Mr. Webster
I have said suppose they are derived from the same
miasmata which produce Febrile
=miasmatic fevers, - if this be the case
those miasmata must lie a great
while in the System, or have left a
predisposition to a disease upon the
throat & skin behind them, for they

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It is peculiar to these contagious diseases to be taken but once in the course of life. ~~with much~~ There is none there an exception to this remark. The matter from which the contagion is formed appears to be a secretion.

appear in winter as well as in
Summer, & in dry as well as in
wet weather. Perhaps they may be no=
=thing but the malignant, or gan=
=grenous grade of ~~a fever, also~~ the common
inflammatory ~~Ca~~ Angina, ~~but~~
changed by what I shall presently
call an inflammatory Constitution
of the Atmosphere ~~also bloodly~~ to a malignant
state. A Catarrh is induced by Mio=
=miasmatic exhalatives - why may not
a Cynanche Maligna be induced by Krino=
=miasmata?

The Small pox, measles, hooping
Cough, and Chicken pox all produce
themselves without the Cooperation of
an exciting Cause. In this, they differ
from the fevers from Krino, and
~~idio~~ idiomiasmatic exhalations which
for the most part require the aid
of an exciting Cause to produce them.
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Under this head I shall barely

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mention those diseases which are ~~admitted~~ propagated from specific matters by Contact only. They are the venereal disease, the Itch, the venereal Disease, Ringworms & perhaps some other diseases of the Skin. They spread by a fixed matter. ~~The fourth sort~~ The small pox - measles, hooping Cough & Chicken pox spread by means of a Volatile matter. The former have been called infectious; the latter contagious diseases. ~~Those~~ Some of these spread by infection as well as contagion - ~~as~~ as the small pox, and measles.

We proceed to mention other Sources of the unhealthy qualities of the Atmosphere from the mixture of foreign matters with it.

V. The matter discharged from the lungs in Respiration. This has been called Azote - Nitrogen - ~~&~~ Septon phlogisticated Air by the Chemists. When confined, or ~~undiluted~~ with Common Air it produces

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V ~~out~~ Of 7650 Children born in the lying in hospital at Dublin 2944 died within 9 days after their birth. that they perished from the ~~impure~~ confined air discharged from the lungs, we infer from the mortality being ~~great~~ very much lessened by the ~~ro~~ the rooms being less crowded afterwards, so that the Deaths were ~~lost~~ reduced to but 1 in 3.

~~to~~ disease and death. ~~Upon~~ have all heard or read ~~of~~ the melancholy account of the ~~death~~ sufferings and death of a number of English-men who were confined in a small room called the black hole at Calcutta. Dr Hales mentions ~~to~~ Dr Franklin an ~~similar~~ instance ~~of death~~ ~~in~~ of 3 persons out of 4 who seated themselves near a hole in the ceiling of the house of Commons in England in order to hear a private debate, perishing with fevers ~~in consequence of the impure air~~ ~~they imbibed from the~~ soon afterwards. The sickness which is often contracted by children in crowded Schools is derived chiefly from the air of the Schoolroom being over charged with Azote, or ~~what~~ phlogisticated air. I know a lady who cannot go into

a crowded room to pay an afternoon visit
without being affected with a giddiness in
her head, and I have known a gentleman
who was subject to the Gout who always
felt in the same situation a disposing
pain in his Rectum. The Epilepsy often
attacks in a crowded room — hence
its name of "morbus Comitialis", or
the disease which attacks in Company.
The phlogisticated Air is ~~the~~ its exciting cause.
~~of this disease in~~ It is ~~[illegible]~~ always
more unhealthy ~~at~~ in Companies which
assemble in the night, than in the
day from its being combined with the
Air which has been consumed ~~by~~ by
candles, or other artificial lights. It is still

more unhealthy when persons who are confined labour, or exercise, than when they sit still. ~~This has been demonstrated by an experiment made by~~

VI The Carbonic Acid ~~wh~~ which is discharged from ~~lungs~~ - the calcarious earths, alkalies, charcoal, and fermenting bodies produces giddiness, head ach, nausea, convulsing and death. This Acid acts specifically upon the lungs, for in the stomach it is cordial and medicinal in a high degree. The lungs of Animals which have been destroyed by it are sometimes so completely collapsed as to sink in water. This fact should be recollected when we are called upon to examine whether children

have been still born or destroyed after birth, for if by any accident they should have inhaled a portion of this gas, their lungs will exhibit the same ~~appearances and~~ phenomena as if they had never breathed. From its greater specific gravity than atmospheric air it exists near the surface of the earth where it often proves fatal to dumb and ruminating animals than to man. The ~~grotto~~ Grotto del Cane near Naples which always abounds with this gas derives its name from its fatality to dogs. — Mr Bruce tells us in his travels that in the town of Sennaar ~~and~~ upon the Nile, and several miles around it ~~in the~~ the earth emits an air which is fatal to all animals except to man probably

because he is not obliged to stoop to receive
his nourishment from it. Mr Bruce lost
his grey ~~hounds~~ hounds, and all his mules
a few weeks after he arrived at this town.
They died he says without discovering any
outward marks of disease. The unwhol-
-some ness of the air is confined to the rainy
season. As soon as it comes on the
inhabitants save their cattle by driving
them to some distance from the town. ~~as~~
The soil which emits this air is un-
-commonly favourable to the growth of
rice, wheat and millet, but no tree ~~or~~
~~flower~~, except the lemon, ~~was~~ will flowers,
~~will~~ nor grow in it. It is never overflowed
by the Nile. When lixiviated it affords
a good deal of Salt, the nature of which

is not mentioned by Mr Bruce. In walk=
=ing over it he tells us he perceived prick=
=ing pains in his legs. There is a portion
of earth near the Scioto Settlement on
the Ohio river which possesses ~~all~~ several of the
properties ascribed by Mr Bruce to the
soil of Senaar. It proves fatal to dogs,
and in one instance ~~to~~ it killed two puppies belong=
=ing to a Mr Segrain who visited it.

VII Hydrogen Gas sometimes mixes with
the air ~~to~~ as to become the cause of disease
and death. Dr Franklin was affected with
an intermitting fever in consequence of
inhaling ~~the~~ a portion of this air which was
discharged ~~from~~ by ~~the~~ agitating a pond of
stagnating water. ~~This should do~~ It now &
then suddenly destroys life in subterraneous

V High walls protect from it, and heavy rains destroy it.

carrow mines, in which places it is called Choke damp. —

VIII There is a wind known in the Eastern countries by the name of Warmettan or Samoon which sometimes proves sudden-
-ly fatal to man and other Animals. ~~It~~
~~is with deleterious quality from passing~~ It passes over large beds of Bitumen which abound with the Sulphuric Acid, ~~on~~ which the heat of the sun volatilizes and sets at liberty, and which by mixing with the air imparts to it its deleterious quality. ~~It~~ The fatal effects are avoided only by falling with the face upon the ground. Persons who are ~~destroyed~~ killed by it ~~perish~~ suddenly in a few hours. No putrid ferment in this case is introduced into the body, for this acid is of an antiseptic nature. I shall

V Kentucke emitted a Sulphurie fator
not after an earthquake in the year
1811 which was distinctly observed 150
yards off for some time after it. In a
thick settled country it w^d probably have
produced disease.

hereafter ascribe this sudden putrefaction of the body to the immense stimulus of the Harmattan Wind disorganizing every part of the body by its action upon its sensible & irritable fibres. —

IX ~~Va~~ A Vapor is sometimes emitted from the earth when torn by an earthquake which mixes with the Air and produces diseases. This was remarkably the Case after the earthquake ~~wh~~ on the 7th of June 1692 in Jamaica. Three thousand persons died of ~~the~~ a ~~effects~~ fever produced by this Vapor a few months afterwards. It had a very offensive smell. A Spring of pure Water ~~b~~ in V

X ~~Va~~ A Vapor is said to be emitted sometimes from Springs which contaminate the Air. This was the ~~Cause of the~~ cause of one of the plagues at Vienna, and of another in a town in

X

Instance. The Vapor it is said in ~~the~~ the former Case had an Offensive Smell.

XI. Air is rendered Unhealthy by being mixed with the Sulphur or the Sulphurie Acid which is discharged from fossil Coal during its inflamaration in large towns. A Stranger from a Country where wood is used for fuel seldom fails of being Affected by it a few days After he enters the Cities of London ~~or~~ or Edinburgh. It acts chiefly upon the lungs by exciting a Cough. The late Dr Gardiner of Charleston informed Dr Ramsay that the Citizens of Charleston are determined to burn fossil Coal instead of wood in their houses. Coughs became general tho' the City ~~is~~ immediately Afterwards in Consequence of which

the use of wood was restored in all their fire places. —

XII ~~The effects of a~~ The air of a room in which wood or coal is burnt in a close iron stove is often unhealthy. It induces head ach in some people, and great languor upon others. From the same effects not being induced in a room heated by a brick or China stove it has been supposed that the breath or perspiration alights upon the iron stove and is consumed by it, and hence its unpleasant, or unhealthy effects. Others ascribe these effects to the heat of the stove producing too much dryness in the air. What makes this latter opinion probable is, that placing an open vessel of water upon the stove which throws off vapor into the

V A fine powder is emitted ~~from~~ in the grinding of Gypsum which is inhaled by the lungs, where it often produces pulmonary complaints. ~~The~~ Floating particles of flour create a Cough ~~and~~ hence the frequency of that disease among millers in all Countries.

room ~~Air~~ in proportion to the heat of the stove, in a greater measure obviates all its disagreeable & morbid effects upon the body.

XIII The effluvia of certain manufactories sometimes contaminate the Air, particularly all those which diffuse thro' it the volatile parts of Arsenic, lead, or Sulphur. The last substance viz Sulphur has been said to induce mental as well as bodily disease. Baydone ascribes a part of the peculiar wildness of the inhabitants of ~~the~~ Naples ~~neighbourhood of Vesuvius~~ to their constantly inhaling more or less of the ~~Vapors~~ Sulphuric Vapors emitted by the Volcano in its neighbourhood.

XIV Certain odors of ~~plants~~ flowers, - Spices - Gums &c which float in the Air sometimes

2

X

indue disease & death. A headache has been brought
on by the smell of Allspice. Persons of
delicate and irritable habits have strictly
speaking, "died of a rose ~~and of bruised~~
~~of violets~~ in aromatic pain". The odor
of Napel Dr Virideet says nearly killed a
number of boys at Dura, they were
saved from its morbid effects by giving them large quantities
of wine.

XV ~~Par~~ Particles of sand which are diffused
thro' the air in Egypt, the dust which is ~~cr~~ created
by the wearing away of the shells which
pave the streets at Surinam, & the ~~fine~~
pollen of plants which fills the air
in the state of Kentucke in the spring
of the air, have all been known
to produce the Ophthalmia. The

same disease has often been produced by the smoke of wood in all Countries. It likewise imparts to the Skin a sallow or dark Color. ~~Particles from grinding needles induce consumption.~~

Dr Beddoes has enumerated among the Causes of Consumption the irritation induced in the lungs by the fine particles which are ~~emitted~~ from needles in grinding them so as to give them the fine polish & thereby to fit them for ~~sale~~ sale or exportation. ~~[illegible]~~

I was consulted by a Clergyman in the year 1809 who contracted a severe ~~pulmonary~~ disease in his lungs & stomach by inhaling & swallowing a quantity of fine sand and dust ~~volcanic~~ which the wind blew upon him while he was preaching in the open air. He discharged by coughing some days afterwards $\frac{1}{4}$ of a pound of sand & dust cemented by mucus, and a large quantity ~~from~~ of both from his stomach by

means of emetics.

XVI I have said that stagnated air without any foreign matters being combined with it is sometimes a source of disease. [For support of this opinion I shall mention an experiment lately made by Mr. Joseph Cloud of this city. He ~~filled a box~~ closed a box that contained about nine gallons of air - perfectly air tight. After it had ~~stood~~ remained without the least motion for about a month he opened it, and in the presence of Mr Patterson V. Provost and Prof. of Natural Philosophy applied a lighted candle to the upper part of the box. The ~~by~~ blaze of the candle was instantly extinguished.

He then applied it in a lighted flate to the lower part of the box. ~~It~~ The blaze was instantly ~~an~~ rendered more vivid or brilliant & you will easily comprehend the ~~It~~ cause of these phenomena, ~~bec~~ the Azote of the Air had ascended, & its oxygen descended in the box agreeably to ~~the~~ the natural & habitual laws which govern them, ~~respective properties~~ in consequence of their spontaneous ~~spontaneous~~ seperation from each other. This ~~fact is an im~~ experiment is an important one for 1: it proves the component parts of the Atmosphere to be kept together by diffusion, only, and not by mixture, and 2ly that motion — or agitation is indispensably necessary to preserve this Union. Hence then

we learn the final cause and advantages of ~~the winds~~ winds & ~~Air~~ ~~wind~~ Storms in every part of the world. Our Globe would not be habitable without them. We learn further the reason why ~~houses~~ Alleys, houses and Churches that have been closely shut up for months or even weeks after become both the ~~excitin~~ remote and exciting causes of head ach, Catarrh and fevers. The ~~sickness~~ diseases on board of Ships which are becalmed for two or three weeks, probably arise wholly from the dissolution of the component parts of the Air. They have been ascribed to the putrefaction of the feculent parts of fish & Seaplants which are

are thrown up upon the surface of the Ocean, Christ has have proved ~~that liquidity and putrefaction are incompatible with each other~~ in the history which was given of the Origin of Koinoniasmata that liquidity and putrefaction are incompatable with each Other. ~~Th~~ I shall ~~hereafter~~ hereafter apply this Discovery of mine Cloud to the practice of physic, particularly to ~~the~~ treatment of fevers.] Again the prevalence of pestilential fevers has ~~been~~ always been marked by ~~a stagnating Absence of wind. As since Aurel of Hippocrates~~ the Absence of wind. ~~Th~~ Of this I shall mention a number ~~who so in the great plague~~

of instances in our next lecture.
~~in London in 1665, & it was so in the yellow fever of 1793 in Philad.~~ The disunion ~~of the~~ the component particles ~~of the air~~ The disunion of the component parts of the air in these cases added to the influence of the kyno= miasmata which produced those diseases. - Perhaps in some cases it may be the exclusive cause of them.

I mentioned formerly upon the authority of Baron Humboldt - a place in South America in which wind is un= known insomuch that ~~the~~ its Indians ~~who~~ ~~is~~ inhabitants have not a name for it; & yet no ~~bad~~ diseases are

produced by it. In this case habit must destroy its morbid effects, or the vapor exhaled from the waters of the two rivers Big Osouche, or Black River may deprive it of its noxious qualities. — Or possibly the Baron may have been misinformed, ~~as~~ and there may be no foundation for ~~the supposed fact~~ what he believed and ~~propagated~~ communicated.

V Dr Sydenham ascribed it to a mineral exhalation from the bowels of the earth.

XVII

Hippocrates, Sydenham & many other writers ~~have~~ often mention in their works a certain quality in the air which they have all called an inflammatory or malignant constitution of the Atmosphere. It has been ascribed to a superabundance of oxygen in the air by some physicians, but this is denied by the chemists who say the proportion of oxygen in the air is the same in all countries & in all places. Others have ascribed to ~~the~~ the air being overcharged with electrical matter, but of this we have no proofs. However ignorant we may be of ~~its causes~~ the nature, of the matter which thus imparts to

the air a disposition to render diseases unusually inflammatory or malignant, most ~~many~~ physicians, ~~[illegible]~~ all animals, and vegetables, nay all nature bear testimony to the certainty of its existence. I shall mention the proofs of this assertion in the concluding part of our history of the laws of Epidemics. At present it will only be necessary to remark, that this inflam^y constitution of the air exists independantly of its sensible qualities, and of course in all kinds of weather. Of this Dr Huxham mentions the following instances. "In August 1739 a great languor oppressed every body" ~~from what cause?~~ probably from

V &

exhi

the stimulus of this latent matter in the
air inducing depression of the whole system.
~~to again he adds th~~ This depression was
not confined to the human species, for
the Doctor adds "the singing birds were
depressed, and even the grasshopper was
mute". At the same time, says the Dr. the
weather was nearly as usual, dull,
and moist, with the wind south wester=
=ly" In the ~~same~~ month of August
1734 the Doctor says "many birds died
in moulting, and scarcely was the noise
of the grasshopper to be heard" probably
from ~~a similar~~ the same state of the atmosphere
which took place in the year 1739.

V

exh

This inflam^y Constitution of the air some=
=times pervades the whole Globe, but it is oft=
=ner confined to single countries, cities &
towns. Now & then it seems like cold,
rain, hail snow and storms to appear
in what are called veins or in a strip
of country. limited by forests mountains or
rivers. It seldom produces disease of
itself without the cooperation of mias=
=mata, or contagion. The yellow fever
which is the common bilious fever
exalted to its highest grade, has not been
produced in a single instance in the United
States without the cooperation of koino=
=miasmata. This is a most consoling
consideration under the prospect of

produced by them, compared with the sensible qualities of the air particularly its changes from heat to cold, and from cold to heat. Two reasons may be given for this - 1st. The great aptitude of the body to accommodate itself to any situation. And 2ly the great and prompt disposition of the air to relieve itself of all extraneous or foreign matters. Of this, the following fact furnishes a striking proof. At the Leadmines in Scotland, the air is so much impregnated with a poisonous effluvia ~~from the vapour of gas upon~~ that ~~which rises from~~ the leadore, that birds which fly ~~over~~ near them instantly fall dead on every day of the week except Sunday on which day the labourers cease to work, and the air recovers its natural purity and healthiness.

We may learn an important lesson from ~~the~~ many of the facts that have been mentioned in the history of the morbid effects of the air, and that is, that the secret causes ~~and nature~~ of a disease seldom produce ~~a disease~~ them without the

pestilential diseases. The inflam^d, or malignant constitution it is true, cannot be removed, nor changed by any means in our ~~power~~ power, but the corrupting ~~and exciting~~ miasmata, may be removed and the pestilential diseases ~~thus lessened~~, which are produced by them, may thus be prevented. The force and danger of new contagious diseases ~~may~~ be lessened during the prevalence of this inflam^d constitution of the atmosphere by a greater degree of depletion than w^d be proper or necessary if ~~the~~ those diseases depended on contagion only, without the additional stimulus of the inflam^d matter in the air.

After all that has been said of the unhealthy impregnations of the atmosphere, it is agreeable to observe how ~~many~~ few diseases comparatively speaking, are

aid of an exciting cause, and that both of them may be avoided by prudence and care, so as to prevent the formation of dis=
=ease. ———